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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,944	01/10/2002	Katsumi Kurematsu	1232-4808	6421
27123	7590	10/15/2003	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 345 PARK AVENUE NEW YORK, NY 10154			NGUYEN, MICHELLE P	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/043,944	KUREMATSU, KATSUMI	
	Examiner	Art Unit	
	Michelle Nguyen	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because in lines 3-4, "p lurality" should be --plurality--.
Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5-9, 11, 13-20, 22-24, 26, 27, 29-32, 34 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,597,223 to Watanabe et al.

With regard to claims 1 and 32, Watanabe et al. disclose a projection type display apparatus including a projection optical system (projection lenses 110) for projecting image light from a display device (see modulating device 108), the projection optical system having light amount adjusting means (aperture stop 111) capable of substantially uniformly attenuating said image light in the cross-section thereof, wherein said attenuating is based on an input image signal (luminance signal; see input terminal 151) to the display device (see Col. 14, lines 60-3, Col. 22, 18-21; Figs. 12, 14).

With regard to claims 3 and 34, Watanabe et al. teach an apparatus according to claims 1 and 32, wherein said light amount adjusting means has a variable stop comprising a plurality of displaceable (in clockwise and counterclockwise directions)

light intercepting plates (blades CB) arranged in said cross-section (see Col. 15, lines 17-23, Figs. 8A-8C, Col. 20, line 55 to Col. 21, line 10, esp. Col. 21, lines 7-10).

With regard to claims 5 and 36, Watanabe et al. teach an apparatus according to claims 1 and 32, wherein said light amount adjusting means has a stop variable in aperture diameter (see Col. 15, lines 17-23).

With regard to claim 6, Watanabe et al. teach an apparatus according to claim 1, wherein a write signal to said display device is modulated in synchronism with the adjustment of the amount of light by said light amount adjusting means so that dynamic range about luminance may change (see Col. 21, line 64 to Col. 22, line 10, Figs. 12, 14).

With regard to claim 7, Watanabe et al. teach an apparatus according to claim 1, wherein said display device includes a light modulating element (modulating device 108) and illuminating means for illuminating said light modulating element with light from a light source (lamp 102), and said illuminating means has a first optical system (see mirror 101, lens 103) for forming a plurality of light source images by the light from said light source, and a second optical system (see lenses 110) for superimposing the beams from said plurality of light source images on said light modulating element, and said light amount adjusting means is disposed at a position whereat said plurality of light source images are projected (see Fig. 12).

With regard to claim 8, Watanabe et al. disclose a projection type display apparatus comprising:

a projection optical system (projection lenses 110) for projecting image light from a display device (modulating device 108) (see Fig. 12);

light amount adjusting means (see aperture stop 111) for adjusting the amount of said image light (see Fig. 12); and

control means (controller 120) for attenuating the amount of light of the whole of said image light by said light amount adjusting means and modulating a write signal to said display device so that dynamic range about luminance may be expanded, wherein said attenuating is based on an input image signal (luminance signal; see input terminal 151) to the display device (see Col. 21, lines 16-22, Col. 21, line 64 to Col. 22, line 10, Figs. 12, 14).

With regard to claim 9, Watanabe et al. teach an apparatus according to claim 8, wherein said light amount adjusting means substantially uniformly attenuates said image light in the cross-section thereof (see Col. 14, lines 60-3, Col. 21, line 55 to Col. 22, line 10, Fig. 12).

With regard to claim 11, Watanabe et al. teach an apparatus according to claim 9, wherein said light amount adjusting means has a variable stop comprising a plurality of displaceable (in clockwise and counterclockwise directions) light intercepting plates (blades CB) arranged in said cross-section (see Col. 15, lines 17-23, Figs. 8A-8C, Col. 20, line 55 to Col. 21, line 10, esp. Col. 21, lines 7-10).

With regard to claim 13, Watanabe et al. teach an apparatus according to claim 8, wherein said light amount adjusting means has a stop variable in aperture diameter (see Col. 15, lines 17-23).

With regard to claim 14, Watanabe et al. teach an apparatus according to claim 8, wherein said light amount adjusting means is disposed at a pupil position of said projection optical system (see Fig. 12).

With regard to claim 15, Watanabe et al. teach an apparatus according to claim 8, wherein said display device includes a light modulating element (modulating device 108) driven in conformity with an image signal (see input terminal 151), and illuminating means for illuminating said light modulating element with light from a light source (lamp 102), and said illuminating means has a first optical system (see mirror 101, lines 103) for forming a plurality of light source images by the light from said light source, and a second optical system (see lenses 110) for superimposing beams from said plurality of light source images on said light modulating element, and said light amount adjusting means (aperture stop 111) is disposed between said first and second optical system whereat said plurality of light source images are projected (see Figs. 12, 14).

With regard to claim 16, Watanabe teaches an apparatus according to claim 15, wherein said illuminating means has a color filter at a condensing point of the light from the light source (see Col. 38, lines 64-7).

With regard to claim 17, Watanabe et al. teaches an apparatus according to claim 15, wherein said light amount adjusting means is disposed at a pupil position of said projection optical system (see Fig. 12).

With regard to claim 18, Watanabe et al. disclose a projection type display apparatus comprising:

a light modulating element (modulating device 108) for controlling transmitted or reflected state of light to thereby display a gradation image (see Col. 2, lines 57-9, Fig. 12);

an illuminating device (lamp 102) for applying light to said light modulating element (see Fig. 12);

a projection optical system (projection lenses 110) for projecting the transmitted light or reflected light of the light applied to said light modulating element (see Fig. 12);

write signal processing means (driver 107) for modulation-processing a write signal to said light modulating element (see Col. 21, line 55 to Col. 22, line 10);

projection light amount control means (aperture stop 111, motor for driving aperture stop) for controlling the amount of light in the optical path between an optical type integrator (collimator lens 103) of said illuminating device to said projection optical system (see Fig. 12); and

control signal generating means (controller 120, circuit 140) for controlling said write signal processing means and said projection light amount control means (see Fig. 12);

wherein said control signal generating means generates a control signal on the basis of the luminance level of an input image signal (luminance signal; see input terminal 151) so as to make the amount of projection light great and the modulation of the write signal small when said luminance level is high, and to

make the amount of projection light small and the modulation of the write signal great when said luminance level is low (see Col. 21, line 55 to Col. 22, line 10, Figs. 12, 14).

With regard to claim 19, Watanabe et al. teach an apparatus according to claim 18, wherein said projection light amount control means adjusts (see aperture stops 104, 111) the amount of light in the optical path between said illuminating device and said light modulating element and/or between said modulating element and said projection optical system (see Fig. 12).

With regard to claim 20, Watanabe et al. teach an apparatus according to claim 18, wherein said projection light amount control means uniformly intercepts a light source image formed by said optical type integrator (see Fig. 12).

With regard to claim 22, Watanabe et al. teach an apparatus according to claim 18, wherein said projection light amount control means has movable stop means (aperture stop 111) and stop driving means (motor) (see Fig. 12).

With regard to claim 23, Watanabe et al. teach an apparatus according to claim 18, wherein said projection light amount control means is disposed at a position which is not in conjugate relationship with said modulating element (see Fig. 12).

With regard to claim 24, Watanabe et al. teach an apparatus according to claim 18, wherein said projection light amount control means controls the amount of stop in conformity with the luminance level of the input image signal (see Col. 21, line 55 to Col. 22, line 10).

With regard to claim 26, Watanabe et al. teach an apparatus according to claim 18, wherein said control signal generating means has luminance level calculation means for calculating the luminance level of the input image signal, and projection light amount calculation means for calculating the amount of the projection light emerging from the projection optical system in conformity with the calculated luminance level, and generates the control signal of said projection light amount control means on the basis of the amount of projection light calculated in said projection light amount calculation means, and generates the control signal of said write signal processing means on the basis of the luminance level calculated in said luminance level calculation means and said calculated amount of projection light (see Col. 21, line 55 to Col. 22, line 10 Fig. 12).

With regard to claim 27, Watanabe et al. teaches an apparatus according to claim 18, wherein said luminance level calculation means calculates the maximum value of the luminance signal of each pixel in each field or each frame of an image signal as maximum luminance (see Col. 16, line 43 to Col. 17, line 18).

With regard to claim 29, Watanabe et al. teach an apparatus according to claim 18, wherein said write signal processing means modulates the write signal so as to amplify it at an amplification factor substantially inversely proportional to the amount of projection light (see Col. 12, line 57 to Col. 13, line 3).

With regard to claim 30, Watanabe et al. teach an apparatus according to claim 18, wherein said projection light amount control means is disposed at the pupil position of said projection optical system (see Fig. 12).

With regard to claim 31, Watanabe et al. disclose a projection type display apparatus comprising:

a projection optical system (lenses 110) for projecting an image from a display device onto a screen (screen SC) (see Fig. 12); and

light amount control means (aperture stop 111) for uniformly intercepting a light source image projected onto the pupil of projection optical system, wherein said intercepting is based on an input image signal to the display device (see Figs. 12, 14).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 10, 25 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. as applied to claims 1, 9, 18 and 32 above, respectively, and further in view of U.S. Patent No. 3,121,798 to Ploke.

With regard to claims 2, 10 and 33, Watanabe et al. do not teach said light amount adjusting means discussed above with respect to claims 1, 9 and 32, respectively, to have a variable stop comprising a plurality of tiltable light intercepting plates. Instead, Watanabe et al. teach the light amount adjusting means to have a stop variable in aperture diameter (see Col. 15, lines 17-23). However, Ploke teaches a light amount adjusting means (Venetian blind structure) having a variable stop comprising a

plurality of tiltable light intercepting plates (vertically positioned slats 2) (see Col. 1, lines 28-38, Fig. 1). Ploke further teaches substituting a Venetian blind structure for an iris diaphragm to achieve uniform illumination, thereby also teaching Venetian blind structures and iris diaphragms to be art-recognized equivalents (see Col. 1, lines 14-38). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute for the electric aperture stop of Watanabe et al. the Venetian blind structure of Ploke for providing an alternate means for achieving uniform illumination.

With regard to claim 25, Watanabe et al. teach the projection light amount control means discussed above with respect to claim 18 to have movable stop means (aperture stop 111) and driving means (motor), but do not teach the movable stop means to be a stripe stop (see Fig. 12). However, Ploke discloses projection light amount control means having movable stop means (Venetian blind structure) wherein the Venetian blind structure is a stripe stop having a cam motor or an ultrasonic motor as driving means (see Col. 3, lines 62-75, Figs. 1, 3, 7). Ploke teaches substituting the Venetian blind structure for an iris diaphragm to achieve uniform illumination, thereby also teaching Venetian blind structures and iris diaphragms to be art-recognized equivalents (see Col. 1, lines 14-38). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute for the aperture stop and aperture stop driver of Watanabe et al. the Venetian blind structure and the driver of Ploke for providing alternative means for achieving uniform illumination.

6. Claims 4, 12 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. as applied to claims 1, 9 and 32 above, respectively, and further in view of U.S. Patent No. 6,017,123 to Bleha et al.

With regard to claims 4, 12 and 35, Watanabe et al. do not teach the apparatus according to claims 1, 9 and 32, wherein the light amount adjusting means has an ND filter means variable in transmittance. Instead, Watanabe et al. teach the light amount adjusting means to have a stop variable in aperture diameter for attenuating light passing therethrough (see Col. 14, lines 60-3). However, Bleha et al. teach a light amount adjusting means (blending device 420) having an ND filter means variable in transmittance for attenuating light passing therethrough (see Col. 6, lines 45-8, 54-7, Col. 7, lines 24-32). Therefore, the blending device of Bleha et al. and the electric aperture stop of Watanabe et al. are art-recognized equivalents with respect to function. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute for the electric aperture stop of Watanabe et al. the blending device of Bleha et al. for providing an alternate means for attenuating light.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 18, 21, 22, 23, 24, 25, 26, 27, 28 and 29 of the instant application are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 3, 4, 5, 7, 11, 12, 13 and 14, respectively, of copending Application No. 09/957,240 to Ouchi et al. Although the conflicting claims are not identical, they are not patentably distinct from each for the following reasons:

With regard to claim 18 of the instant application,

the light modulating element is met by the optical modulator of Ouchi et al.;

the illuminating device is met by the lighting unit of Ouchi et al.;

the projection optical system is met by the projection optical system of Ouchi et al.;

the write signal processing means of Ouchi et al. reads on the write signal processing means of the instant application;

the projected light quantity control means of Ouchi et al. reads on the projection light amount control means of the instant application; and

the control signal generation means of Ouchi et al. reads on the control signal generating means of the instant application (see claim 1).

With regard to claim 21 of the instant application, the projection optical system is met by the projection system of Ouchi et al. (see claim 2).

With regard to claim 22 of the instant application, the movable stop means is met by the movable diaphragm means of Ouchi et al., and stop driving means is met by the diaphragm drive means of Ouchi et al. (see claim 3),

With regard to claim 23 of the instant application, the position of the projection light amount control means with respect to the light modulating element is met by the position of the projected light quantity control means with respect to the optical modulator of Ouchi et al. (see claim 4).

With regard to claim 24 of the instant application, the projection light amount control means is met by the projected light quantity control means (see claim 5).

With regard to claim 25, the movable stop means and the driving means are met by the movable diaphragm means and the diaphragm drive means, respectively, of Ouchi et al. (see claim 7).

With regard to claim 26, the control signal generating means is met by the control signal generation means of Ouchi et al., the luminance level calculation means is met by the brightness level computing/processing means of Ouchi et al., and the projection light amount calculation means is met by the projected light quantity computing/processing means of Ouchi et al. (see claim 11).

With regard to claim 27, the luminance level calculation means is met by the brightness level computing/processing means of Ouchi et al. (see claim 12).

With regard to claim 28, the luminance level calculation means is met by the brightness level computing/processing means of Ouchi et al., and the cumulative histogram is met by the cumulative histogram of Ouchi et al. (see claim 13).

With regard to claim 29, the write signal processing means is met by the write signal processing means of Ouchi et al. (see claim 14).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

9. Applicant's arguments filed July 15, 2003 have been considered.

As to rejected claims to which U.S. Patent No. 5,597,223 to Watanabe et al. has been applied, either alone or in combination with another reference, applicant argues that the prior art fails to disclose a projection type display apparatus wherein attenuating is based on an input image signal to a display device. Applicant's arguments are moot in view of the new grounds of rejection set forth below.

As to rejected claims to which U.S. Patent Application Publication No. 2002/0044261 to Ouchi et al. has been applied, either alone or in combination with another reference, applicant argues that submission of an English language translation of Japanese Application No. 2001-005307, on which applicant's present application bases a claim of foreign priority under 35 U.S.C. 119, overcomes the rejection. The Japanese application was filed on January 12, 2001, which antedates Ouchi's filing date of September 21, 2001. Accordingly, examiner has withdrawn the rejection.

As to rejected claims to which co-pending application No. 09/957,240 to Ouchi has been applied, applicant argues that the co-pending application fails to disclose a projection type display apparatus wherein a control signal generating means generates a control signal on the basis of the luminance level of an input image signal so as to make the amount of projection light great and the modulation of a write signal small when the luminance level is high, and to make the amount of projection light small and the modulation of the write signal great when the luminance level is low. However, claim 1 of the co-pending application sets forth a projection type display apparatus (line 1) wherein a control signal generating means (line 19) generates a control signal on the basis of the luminance level of an input image signal (lines 19-24, esp. 24) so as to make the amount of projection light great and the modulation of a write signal small when the luminance level is high, and to make the amount of projection light small and the modulation of the write signal great when the luminance level is low (lines 20-3). The last paragraph of claim 18 of the instant application is a rewording of the last paragraph of claim 1 of the co-pending application. Accordingly, examiner has maintained the rejection set forth in the previous Office action.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

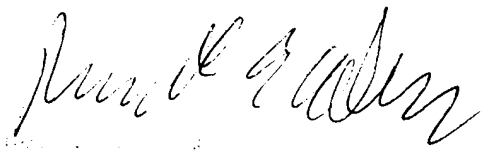
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Nguyen whose telephone number is 703-305-2771. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

mpn


SUPERVISOR
703-308-2847